

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-2 (Canceled).

2 ~~3~~ (Currently Amended). A ~~fused chimeric protein~~ method according to claim ~~1~~ 1, wherein said fused chimeric protein is produced by fusing at the cDNA level an oligonucleotide encoding gonadotropin releasing hormone (GnRH) or a GnRH analog, preceded by a Met, to a mutated DNA fragment of the full length Pseudomonas exotoxin (PE), encoding the protein Met-GnRH-PE66.

1 ~~3~~ ~~4~~ (Currently Amended). A method according to claim ~~2~~ 2, wherein said fused chimeric protein according to claim 1, is produced by fusing at the cDNA level an oligonucleotide encoding gonadotropin releasing hormone (GnRH) or a GnRH analog, preceded by a Met, to a DNA fragment comprising domains II and III of the Pseudomonas exotoxin (PE), encoding the protein Met-GnRH-PE40.

5-8 (Canceled).

1 ~~9~~ (Currently Amended). A method for the treatment of adenocarcinoma or hepatocarcinoma in a mammal, comprising administering to the body of a mammal in need of such therapy an effective amount, sufficient to at least reduce the growth of said adenocarcinoma or hepatocarcinoma, of at least one fused chimeric protein comprising a linear genetically

engineered molecule consisting essentially of peptide bonds,
produced by fusing, at the level of cDNA:

A. DNA encoding at least one cell targeting
moiety consisting essentially of Met-GnRH or a Met-
GnRH analog that specifically binds to GnRH binding
sites on Caco2 adenocarcinoma cells; and

B. DNA encoding at least one cell killing
moiety.

~~as defined in claim 1, sufficient to at least reduce the
growth of said adenocarcinoma or hepatocarcinoma.~~

4/10 (Previously Presented). A' method for
adenocarcinoma or hepatocarcinoma therapy according to claim
1/9, wherein said administering step is by systemic
administration of said chimeric protein.

11-21 (Cancelled)

5/22 (Previously Presented). A method of treating a
mammal having at least one adenocarcinoma or hepatocarcinoma,
comprising administering to said mammal in need thereof, an
amount sufficient to ameliorate the effects of said
adenocarcinoma or hepatocarcinoma, of a pharmaceutical
composition, comprising a fused chimeric protein comprising a
linear genetically engineered molecule consisting essentially
of peptide bonds, produced by fusing, at the level of cDNA:

A. DNA encoding at least one cell targeting
moiety consisting essentially of Met-GnRH or a Met-

GnRH analog that specifically binds to GnRH binding sites on Caco2 adenocarcinoma cells; and

B. DNA encoding at least one cell killing moiety.

~~as claimed in claim 1, sufficient to ameliorate the effects of said adenocarcinoma or hepatocarcinoma.~~

6 2/3 (Currently Amended). A method of treating a mammal having endometriosis, comprising administering to said mammal in need thereof, an amount sufficient to ameliorate the effects of said endometriosis, of a pharmaceutical composition, comprising a fused chimeric protein comprising a linear genetically engineered molecule consisting essentially of peptide bonds, produced by fusing, at the level of cDNA:

A. DNA encoding at least one cell targeting moiety consisting essentially of Met-GnRH or a Met-GnRH analog that specifically binds to GnRH binding sites on Caco2 adenocarcinoma cells; and

B. DNA encoding at least one cell killing moiety.

~~as claimed in claim 1, sufficient to ameliorate the effects of said endometriosis.~~

7 2/4 (Previously Presented). A method for endometrioma therapy according to claim 6 1/3, further comprising trans-cervical washing of the mammal's endometrial cavity.

8 2/5 (Currently Amended). A method of treating a mammal having a uterine myoma, comprising administering to

said mammal in need thereof, an amount sufficient to ameliorate the effects of said uterine myoma, of a pharmaceutical composition, comprising a fused chimeric protein comprising a linear genetically engineered molecule consisting essentially of peptide bonds, produced by fusing, at the level of cDNA:

A. DNA encoding at least one cell targeting moiety consisting essentially of Met-GnRH or a Met-GnRH analog that specifically binds to GnRH binding sites on Caco2 adenocarcinoma cells; and

B. DNA encoding at least one cell killing moiety.

~~as claimed in claim 1, sufficient to ameliorate the effects of said uterine myoma.~~

9. ~~26~~ (Currently Amended). A method of treating a mammal having a pituitary adenoma, comprising administering to said mammal in need thereof, an amount sufficient to ameliorate the effects of said pituitary adenoma, of a pharmaceutical composition, comprising a fused chimeric protein comprising a linear genetically engineered molecule consisting essentially of peptide bonds, produced by fusing, at the level of cDNA:

A. DNA encoding at least one cell targeting moiety consisting essentially of Met-GnRH or a Met-GnRH analog that specifically binds to GnRH binding sites on Caco2 adenocarcinoma cells; and

B. DNA encoding at least one cell killing moiety.

~~as claimed in claim 1, sufficient to ameliorate the effects of said pituitary adenoma.~~

10/27 (Currently Amended). A method of treating a mammal having BPH, comprising administering to said mammal in need thereof, an amount sufficient to ameliorate the effects of said BPH, of a pharmaceutical composition, comprising a fused chimeric protein comprising a linear genetically engineered molecule consisting essentially of peptide bonds, produced by fusing, at the level of cDNA:

A. DNA encoding at least one cell targeting moiety consisting essentially of Met-GnRH or a Met-GnRH analog that specifically binds to GnRH binding sites on Caco2 adenocarcinoma cells; and

B. DNA encoding at least one cell killing moiety.

~~as claimed in claim 1, sufficient to ameliorate the effects of said BPH.~~

11/28 (Currently Amended). A method of treating a mammal having polycystic breast disease, comprising administering to said mammal in need thereof, an amount sufficient to ameliorate the effects of said polycystic breast disease, of a pharmaceutical composition, comprising a fused chimeric protein comprising a linear genetically engineered

molecule consisting essentially of peptide bonds, produced by fusing, at the level of cDNA:

A. DNA encoding at least one cell targeting moiety consisting essentially of Met-GnRH or a Met-GnRH analog that specifically binds to GnRH binding sites on Caco2 adenocarcinoma cells; and

B. DNA encoding at least one cell killing moiety.

~~as claimed in claim 1, sufficient to ameliorate the effects of said polycystic breast disease.~~

29-36 (Cancelled).

12/37 (New). A method according to claim 5/2, wherein said fused chimeric protein is produced by fusing at the cDNA level an oligonucleotide encoding gonadotropin releasing hormone (GnRH) or a GnRH analog, preceded by a Met, to a mutated DNA fragment of the full length *Pseudomonas* exotoxin (PE), encoding the protein Met-GnRH-PE66.

13/38 (New). A method according to claim 5/2, wherein said fused chimeric protein is produced by fusing at the cDNA level an oligonucleotide encoding gonadotropin releasing hormone (GnRH) or a GnRH analog, preceded by a Met, to a DNA fragment comprising domains II and III of the *Pseudomonas* exotoxin (PE), encoding the protein Met-GnRH-PE40.

14/39 (New). A method according to claim 6/3, wherein said fused chimeric protein is produced by fusing at the cDNA level an oligonucleotide encoding gonadotropin releasing

hormone (GnRH) or a GnRH analog, preceded by a Met, to a mutated DNA fragment of the full length *Pseudomonas* exotoxin (PE), encoding the protein Met-GnRH-PE66.

15 40 (New). A method according to claim ⁶23, wherein said fused chimeric protein is produced by fusing at the cDNA level an oligonucleotide encoding gonadotropin releasing hormone (GnRH) or a GnRH analog, preceded by a Met, to a DNA fragment comprising domains II and III of the *Pseudomonas* exotoxin (PE), encoding the protein Met-GnRH-PE40.

16 41 (New). A method according to claim ⁸25, wherein said fused chimeric protein is produced by fusing at the cDNA level an oligonucleotide encoding gonadotropin releasing hormone (GnRH) or a GnRH analog, preceded by a Met, to a mutated DNA fragment of the full length *Pseudomonas* exotoxin (PE), encoding the protein Met-GnRH-PE66.

17 42 (New). A method according to claim ⁸25, wherein said fused chimeric protein is produced by fusing at the cDNA level an oligonucleotide encoding gonadotropin releasing hormone (GnRH) or a GnRH analog, preceded by a Met, to a DNA fragment comprising domains II and III of the *Pseudomonas* exotoxin (PE), encoding the protein Met-GnRH-PE40.

18 43 (New). A method according to claim ⁹26, wherein said fused chimeric protein is produced by fusing at the cDNA level an oligonucleotide encoding gonadotropin releasing hormone (GnRH) or a GnRH analog, preceded by a Met, to a

mutated DNA fragment of the full length *Pseudomonas* exotoxin (PE), encoding the protein Met-GnRH-PE66.

19 / 44 (New). A method according to claim 16, wherein said fused chimeric protein is produced by fusing at the cDNA level an oligonucleotide encoding gonadotropin releasing hormone (GnRH) or a GnRH analog, preceded by a Met, to a DNA fragment comprising domains II and III of the *Pseudomonas* exotoxin (PE), encoding the protein Met-GnRH-PE40.

20 / 45 (New). A method according to claim 17, wherein said fused chimeric protein is produced by fusing at the cDNA level an oligonucleotide encoding gonadotropin releasing hormone (GnRH) or a GnRH analog, preceded by a Met, to a mutated DNA fragment of the full length *Pseudomonas* exotoxin (PE), encoding the protein Met-GnRH-PE66.

21 / 46 (New). A method according to claim 18, wherein said fused chimeric protein is produced by fusing at the cDNA level an oligonucleotide encoding gonadotropin releasing hormone (GnRH) or a GnRH analog, preceded by a Met, to a DNA fragment comprising domains II and III of the *Pseudomonas* exotoxin (PE), encoding the protein Met-GnRH-PE40.

22 / 47 (New). A method according to claim 19, wherein said fused chimeric protein is produced by fusing at the cDNA level an oligonucleotide encoding gonadotropin releasing hormone (GnRH) or a GnRH analog, preceded by a Met, to a mutated DNA fragment of the full length *Pseudomonas* exotoxin (PE), encoding the protein Met-GnRH-PE66.

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23 / 48 (New). A method according to claim 28, wherein said fused chimeric protein is produced by fusing at the cDNA level an oligonucleotide encoding gonadotropin releasing hormone (GnRH) or a GnRH analog, preceded by a Met, to a DNA fragment comprising domains II and III of the *Pseudomonas* exotoxin (PE), encoding the protein Met-GnRH-PE40.